Service Manual

EA-1

ER-1

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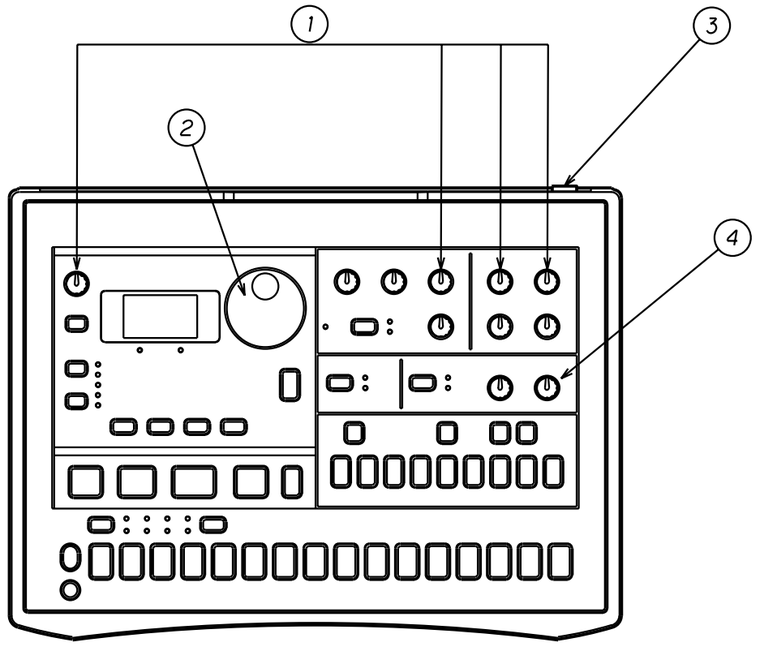
Revision: 1.00
Issued date: Aug.24.1999
Issued by: KORG INC.

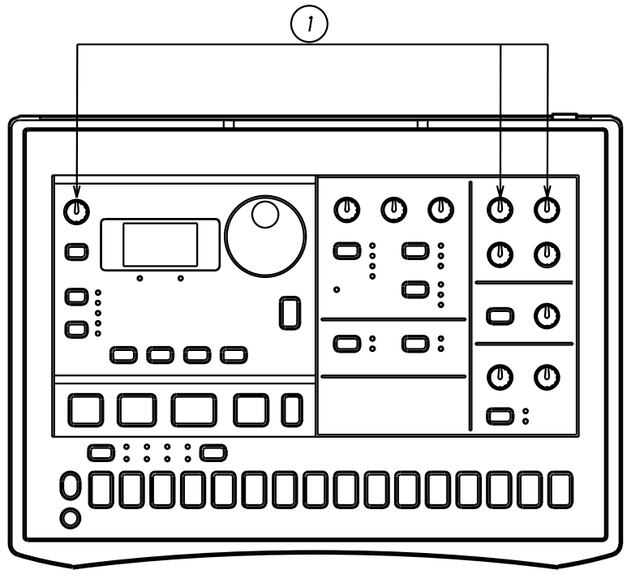
DISASSEMBLY(1/3)

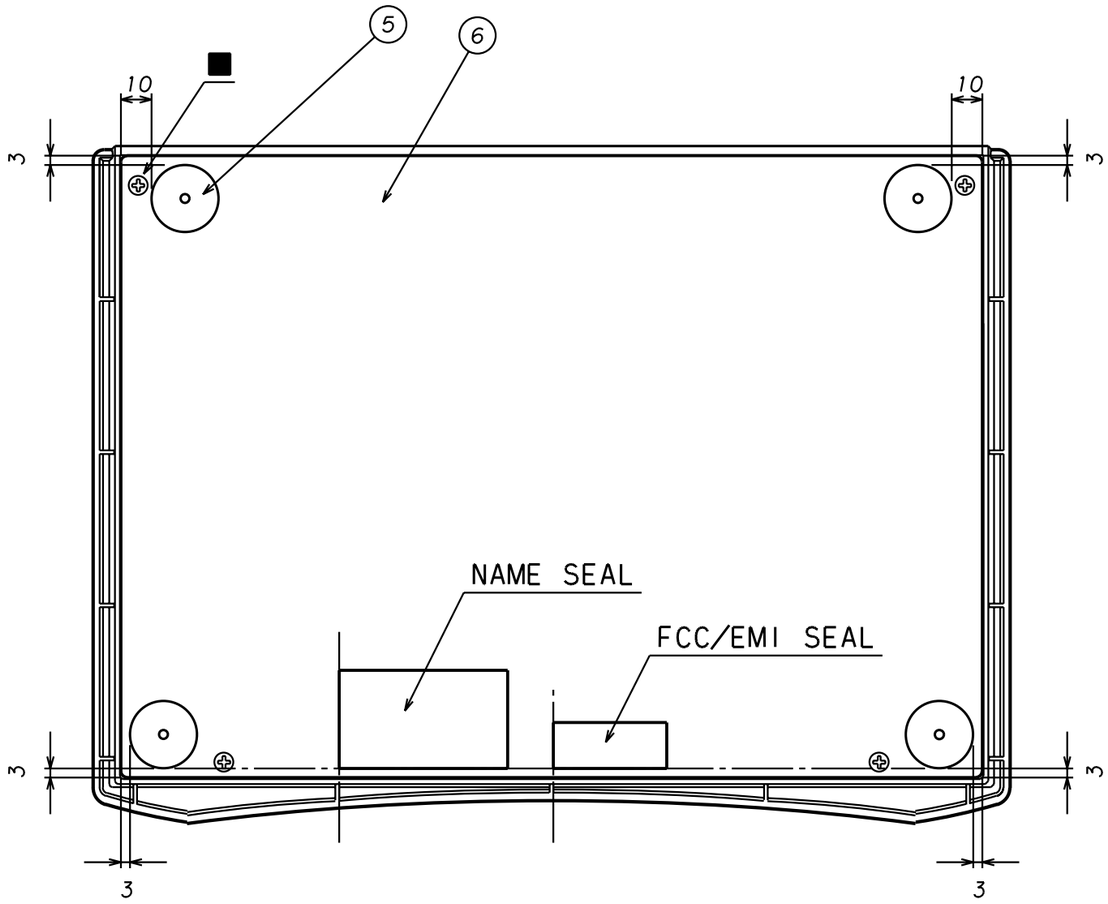
NO.	PART CODE	PART NAME	Q'TY
1	540021900	PLASTIC SUPPORT PS-610	4(3)
2	620036000	X-620 ENCORDER KNOB	1
3	620018200	POWER SW KNOB	1
4	620033900	KNOB P422-90G	11
5	500018300	RUBBER FOOT	4
6	641041547	X-829P/B BOTTOM COVER	1

FOR ER-1



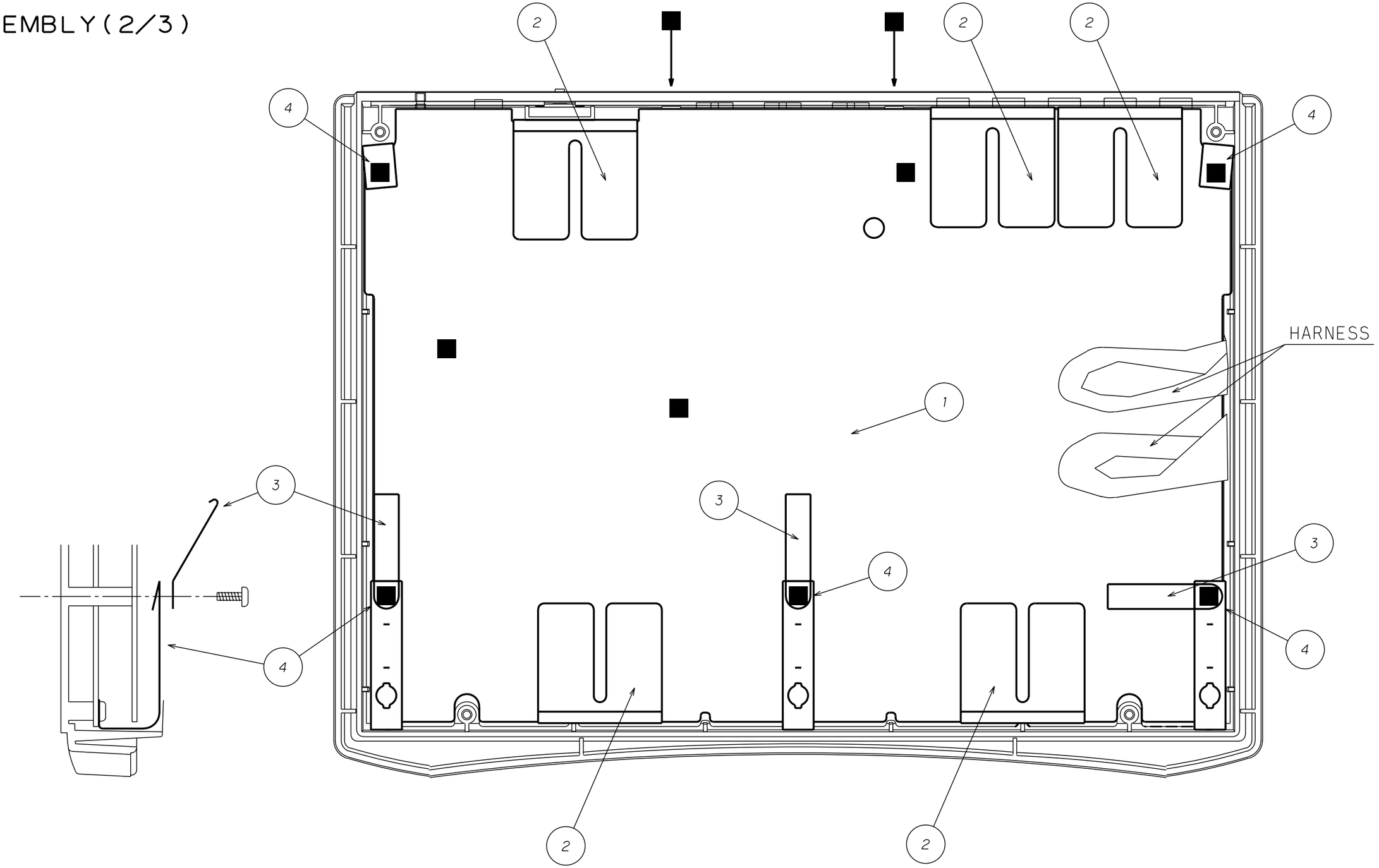
FOR EA-1





MARK	SCREWS	Q'TY
▼		
▲		
■	BT B BZMC 3 x 10	4
●		

DISASSEMBLY(2/3)



NO.	PART CODE	PART NAME	Q'TY
1	001209200	PCB ASSY KLM-2092 FOR EA-1	1
	001209201	PCB ASSY KLM-2092 FOR ER-1	1
2	644007700	GND SPRING	5
3	644008800	GND SPRING (J)	3
4	630025703	X-829P/B SHIELD SHEET	5

MARK	SCREWS	Q'TY
▼		
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■	BT B BZMC 3 x 10	10
●		

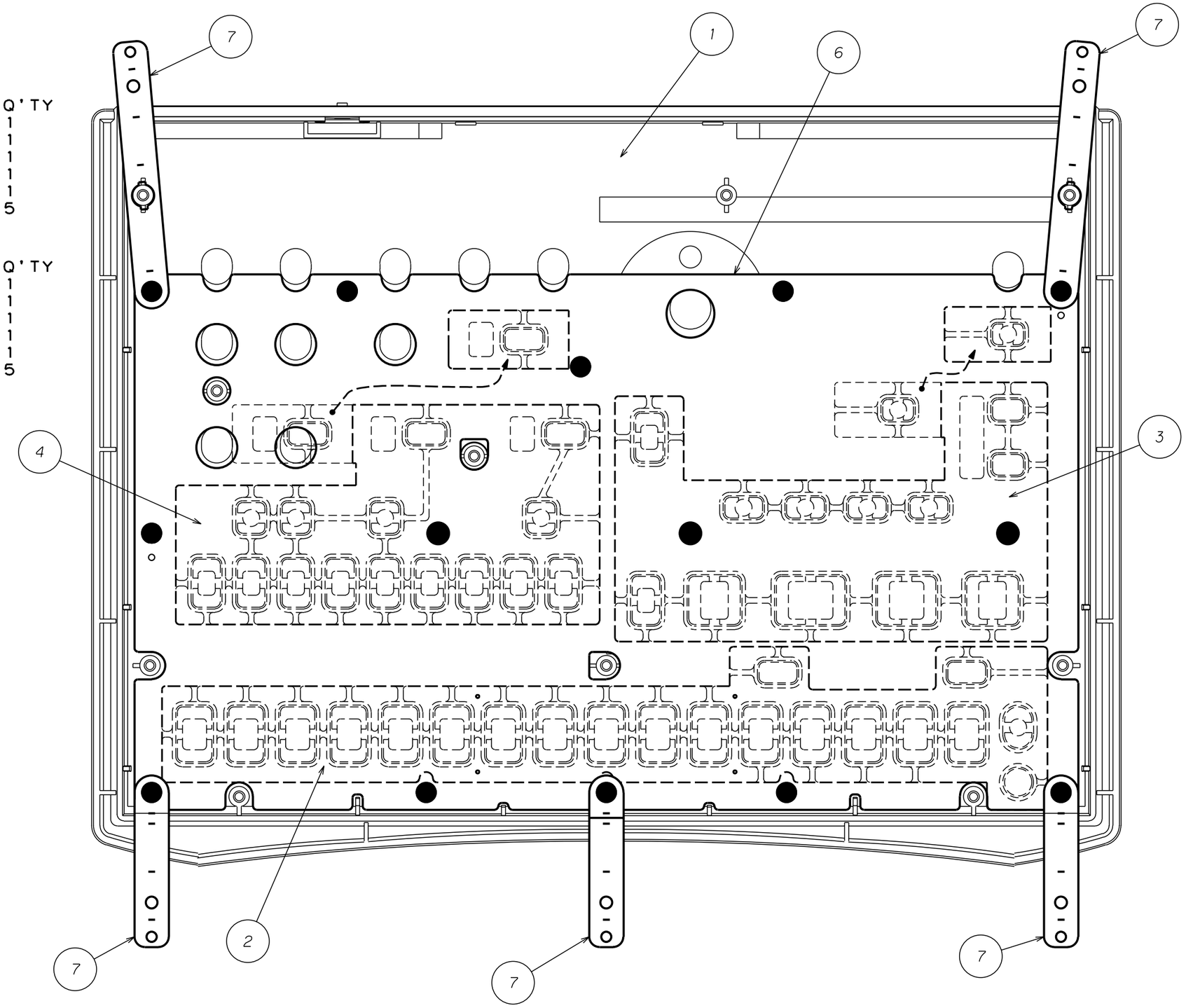
DISASSEMBLY(3/3)

FOR ER-1

NO.	PART CODE	PART NAME	Q'TY
1	646070800	X-829P UPPER CASE	1
2	620035400	X-829P RUBBER KEY F	1
3	620035600	X-829P/B RUBBER KEY L	1
4	620035700	X-829P RUBBER KEY P	1
6	001209400	PCB ASSY KLM-2094	1
7	630025703	X-829P/B SHIELD SHEET	5

FOR EA-1

NO.	PART CODE	PART NAME	Q'TY
1	646070900	X-829B UPPER CASE	1
2	620035500	X-829B RUBBER KEY F	1
3	620035600	X-829P/B RUBBER KEY L	1
4	620035800	X-829B RUBBER KEY B	1
6	001209500	PCB ASSY KLM-2095	1
7	630025703	X-829P/B SHIELD SHEET	5



MARK	SCREWS	Q'TY
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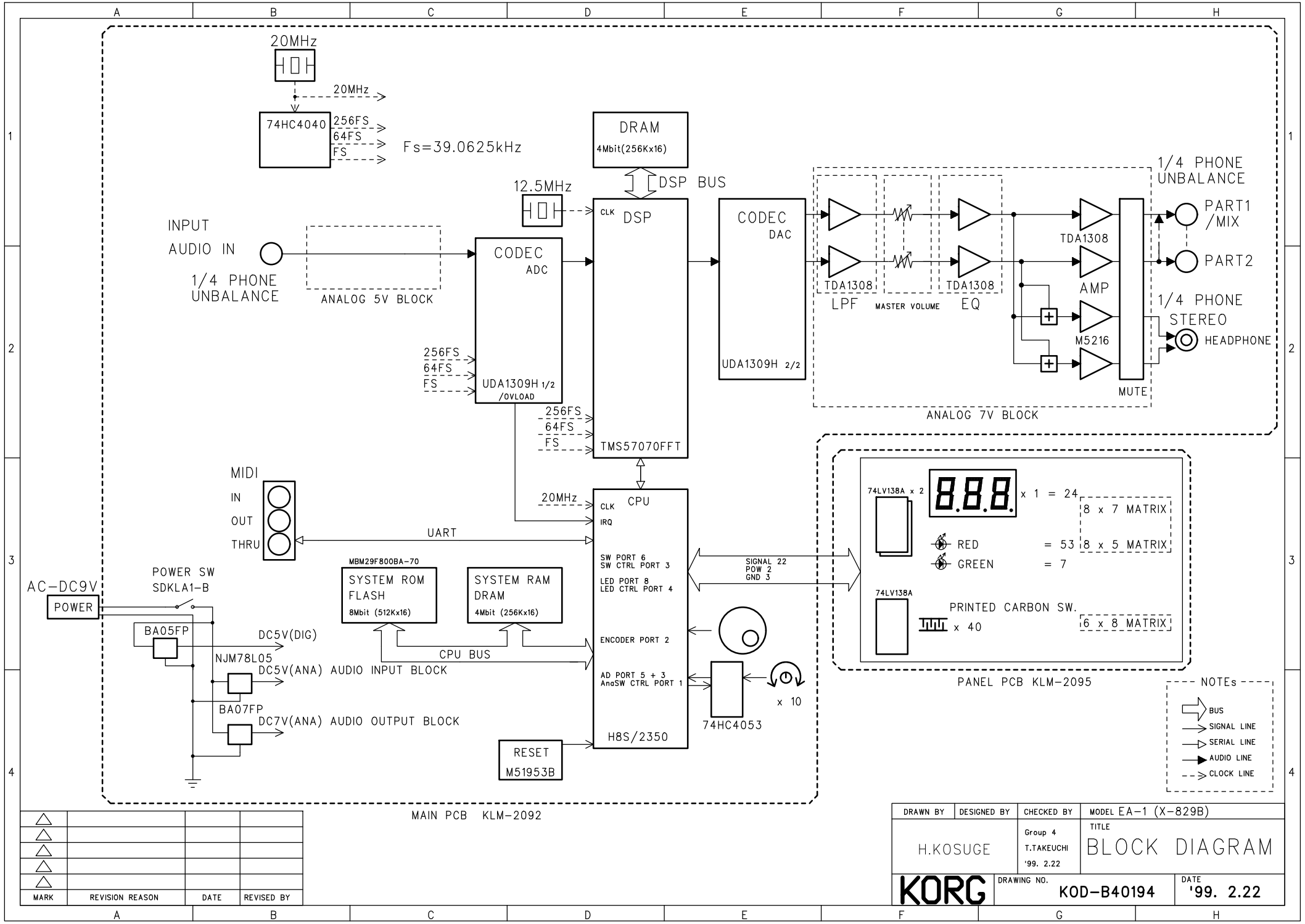
●	BT B ZMC 3 × 8	14



MARK	REVISION REASON	DATE	REVISED BY
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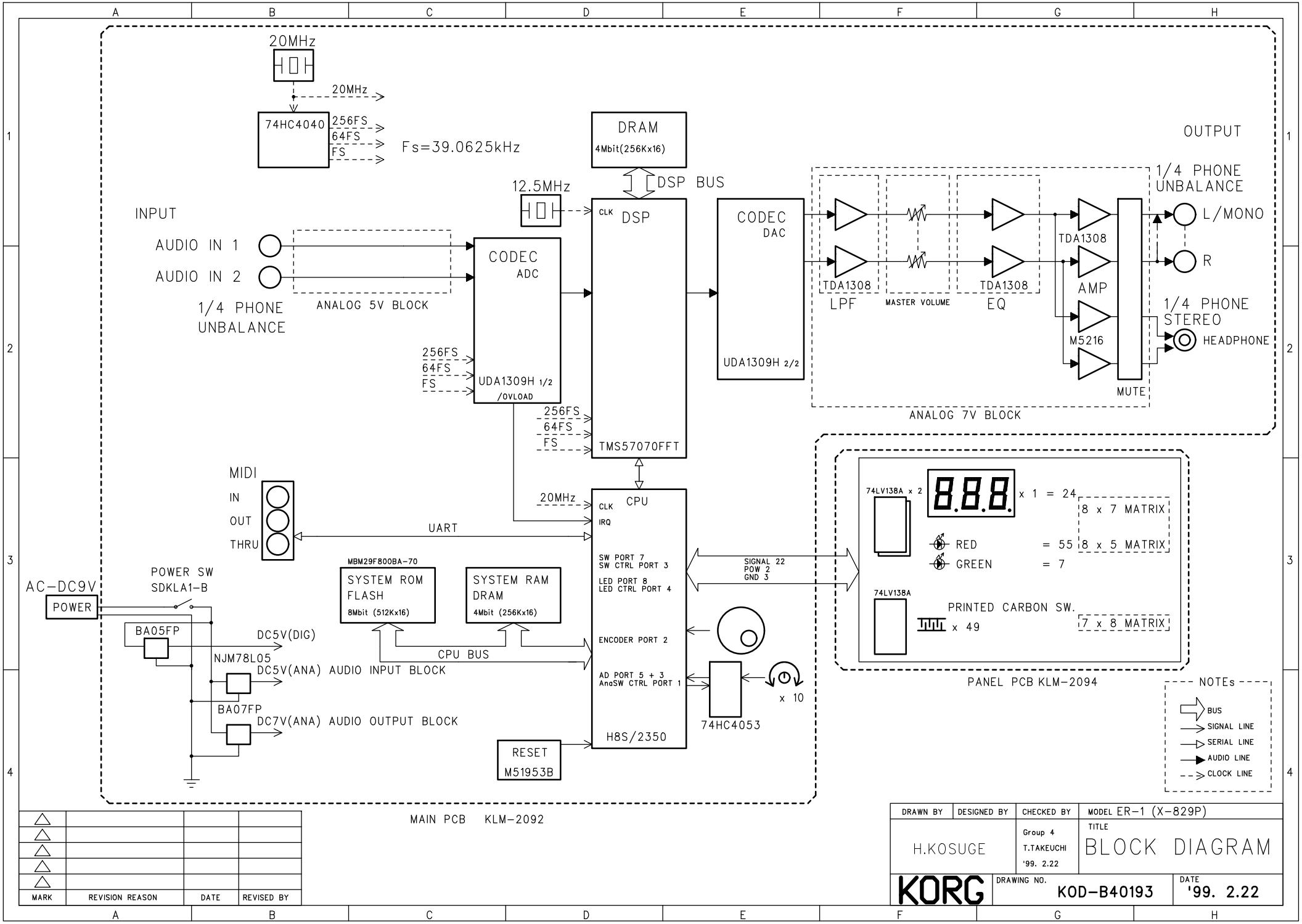
DRAWN BY	DESIGNED BY	CHECKED BY	MODEL EA-1 (X-829B)
H.KOSUGE		Group 4 T.TAKEUCHI '99. 2.22	TITLE BLOCK DIAGRAM
KORG	DRAWING NO. KOD-B40194		DATE '99. 2.22



MAIN PCB KLM-2092

MARK	REVISION REASON	DATE	REVISED BY
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DRAWN BY	DESIGNED BY	CHECKED BY	MODEL ER-1 (X-829P)
H.KOSUGE		Group 4 T.TAKEUCHI '99. 2.22	TITLE BLOCK DIAGRAM
KORG	DRAWING NO. KOD-B40193		DATE '99. 2.22

INPUT

AUDIO IN 1 (ER-1) AUDIO IN (EA-1) LINE ONLY

AUDIO IN 2 LINE ONLY

ER-1 ONLY
EA-1 NO MOUNT

PANEL PCB

ER-1:KLM-2094
EA-1:KLM-2095

DC IN

+5V DIGITAL

OUTPUT

PHONES

L/MONO (ER-1) PART1/MIX (EA-1)

R (ER-1) PART2 (EA-1)

MIDI

IN

OUT

THRU

MUTE

Q1-Q4 : 2SC3661x4

	ER-1	EA-1
R3,R10	38K x2	47K x2
R12,R15	N.U x2	1K x2

	ER-1	EA-1
C93, C111	CE x2	0.047uF x2

EQ

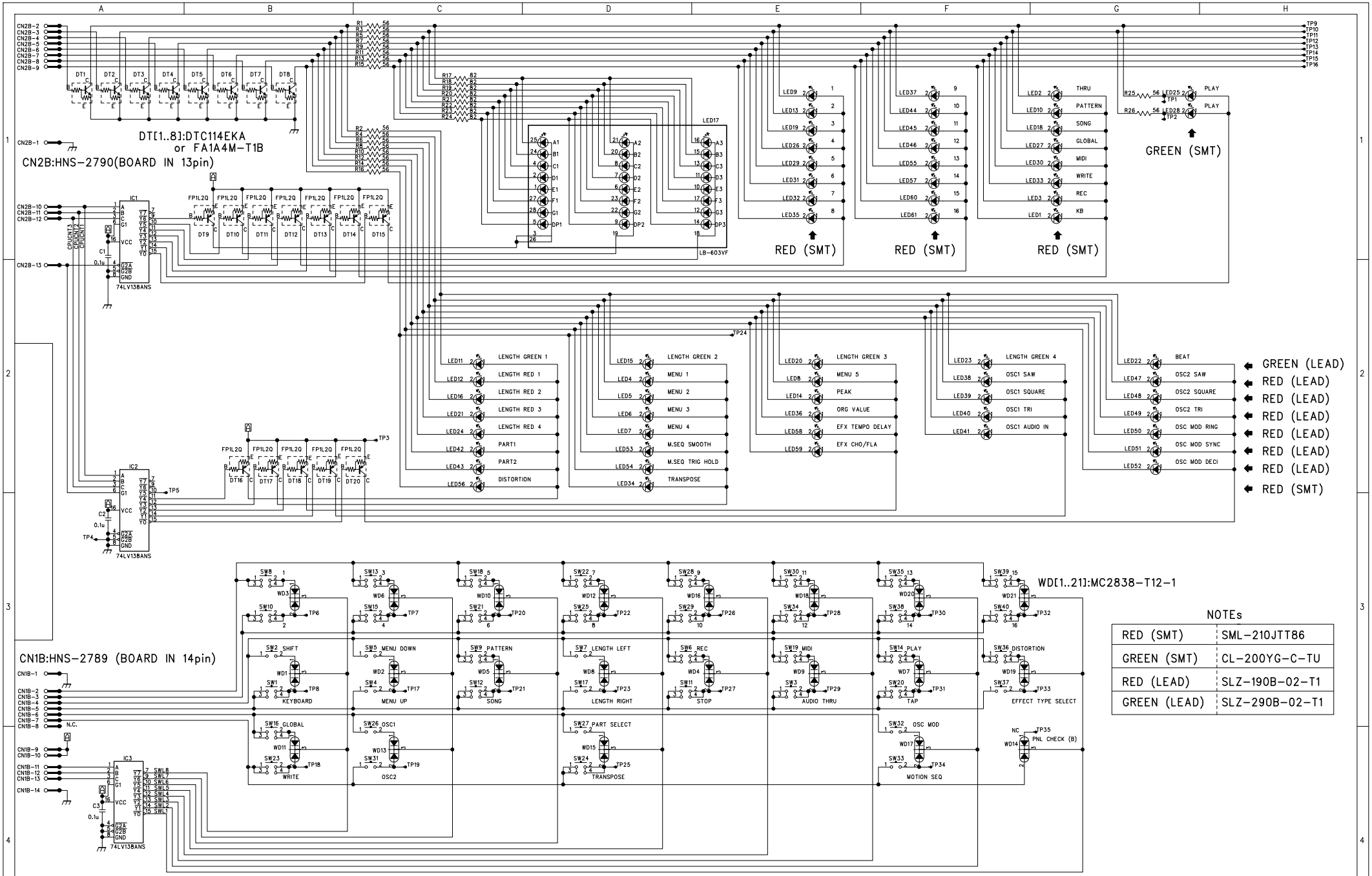
ER-1(X-829P)
EA-1(X-829B)

L : BLM21B102SPT
CE : 0.1uF
RA : NO USE
N.U : NO USE

MARK	REVISION REASON	DATE	REVISED BY
A	Reduce audio level of crosstalk	'99.04.20	H.Kosuge
A	Collect error of writing	'99.04.06	H.Kosuge
A	Add resistor for stable electrical function of Rotary Encorder	'99.04.05	H.Kosuge
A	Add resistor for protect trnasistor	'99.04.05	H.Kosuge
A	Add resistor for become stable for DRAM's access	'99.04.05	H.Kosuge
A	Add resistor for become stable for clock's voltage	'99.04.01	H.Kosuge
A	Change IC type for become stable electrical characteristic of clock	'99.04.01	H.Kosuge
A	Delete diode for PCB revision	'99.04.01	H.Kosuge
A	Add diode for limit upper voltage level of clock signal	'99.04.01	H.Kosuge
A	Change value of Cap. for gain of EA-1's EQ was changed	'99.03.24	H.Kosuge

DRAWN BY	DESIGNED BY	CHECKED BY	MODEL ER-1/EA-1(X-829P/B)
Group 4 T.TAKEUCHI 98.02.25	Group 4 T.TAKEUCHI 98.02.25	Group 4 M.SURUGA	TITLE KLM-2092(MAIN PCB) CIRCUIT DIAGRAM

KORG DRAWING NO. KOD-A10051 DATE '99. 2. 26



NOTEs

RED (SMT)	SML-210JTT86
GREEN (SMT)	CL-200YG-C-TU
RED (LEAD)	SLZ-190B-02-T1
GREEN (LEAD)	SLZ-290B-02-T1

MARK	REVISION REASON	DATE	REVISED BY
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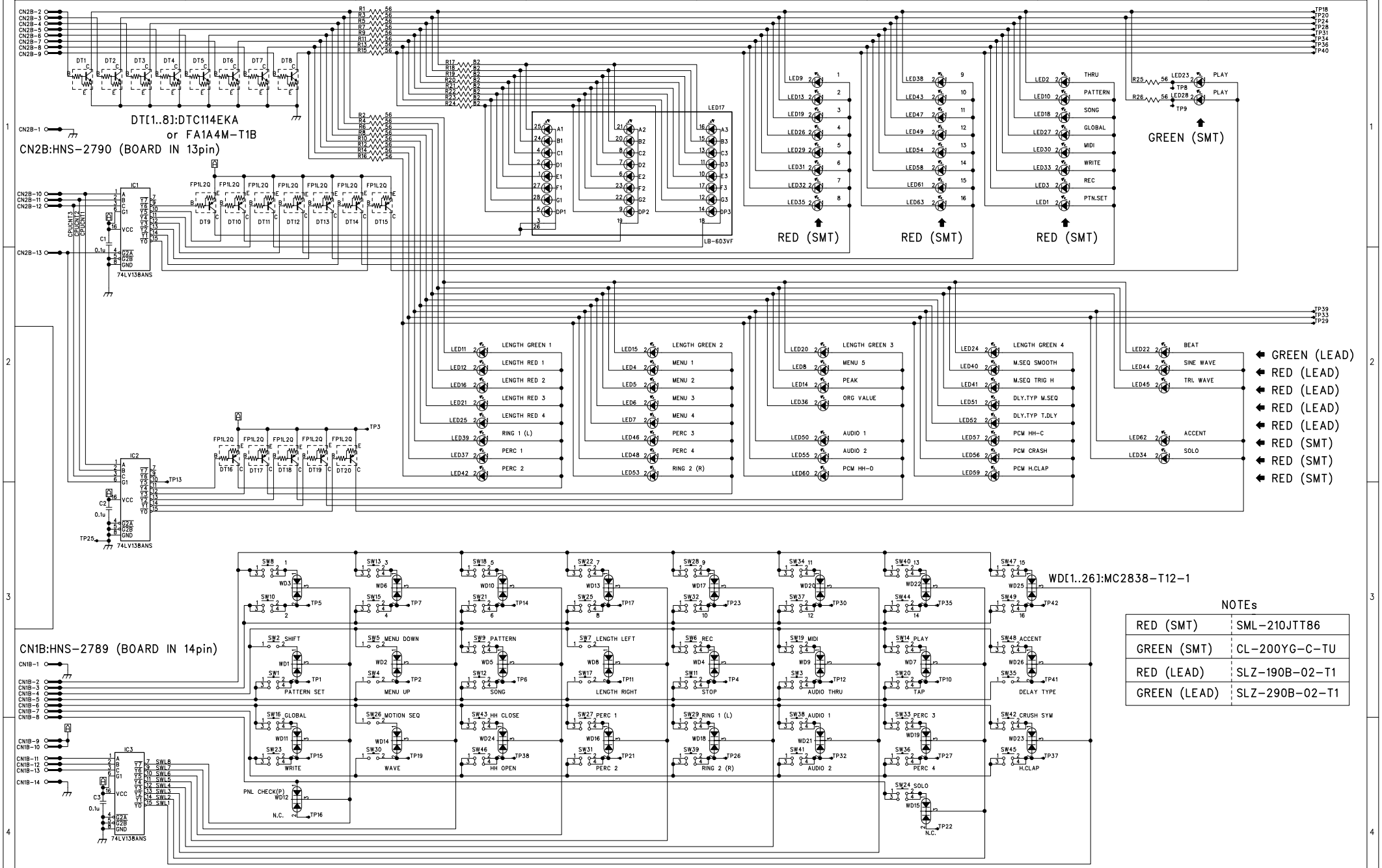
DRAWN BY	DESIGNED BY	CHECKED BY	MODEL X-829B
H.KOSUGE '99.1.27	H.KOSUGE '99.1.27	M.SURUGA '99.1.27	TITLE KLM-2095 CIRCUTI DIAGRAM

KORG | DRAWING NO. KOD-A30381 | DATE '99.01.27



NOTEs

RED (SMT)	SML-210JTT86
GREEN (SMT)	CL-200YG-C-TU
RED (LEAD)	SLZ-190B-02-T1
GREEN (LEAD)	SLZ-290B-02-T1

MARK	REVISION REASON	DATE	REVISED BY
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DRAWN BY	DESIGNED BY	CHECKED BY	MODEL X-829P
H.KOSUGE '99.1.27	H.KOSUGE '99.1.27	M.SURUGA '99.1.27	TITLE KLM-2094 CIRCUIT DIAGRAM

KORG | DRAWING NO. KOD-A30380 | DATE '99.01.27

ER1/EA1

How to start and operate the test mode

“Stop” + “TAP” + Power ON	: Start the test mode
“Cursor Up”	:ITEM UP
“Cursor Down”	:ITEM DOWN
“16”	:STEP UP
“15”	:STEP DOWN

How to reset the system

“Transpose” + “WRITE” & “Play”	: EA-1 PRELOAD
“Solo” + ”WRITE” & “Play”	: ER-1 PRELOAD

Parts code	Parts name and Spesfication	PCB No.	Unit Price(Yen)
304000070	TR 2SA812-T1 (M5-7)	KLM-2092	10
304020230	TR 2SC3661-TA/TB(3K)	KLM-2092	10
304020380	DIGITAL TR FP1L2Q-T1B	KLM-2095	10
304050140	DIGITAL TR DTC114EKA T146	KLM-2095	10
312052000	LED LB603VF	KLM-2095	150
314001400	DIODE RLS-73 TE-11	KLM-2092	10
314010340	LED SLZ-190B-02-T1	KLM-2095	10
314010350	LED SLZ-290B-02-T1	KLM-2095	10
314029500	DIODE SB040-G23	KLM-2092	10
314029700	DIODE RLR4004 TE-21	KLM-2092	10
314029800	LED CL-200YG-C-TU	KLM-2095	20
314029900	LED SML-210JTT86	KLM-2095	10
315000500	DOUBLE DIODE MC-2840-T12-1	KLM-2092	10
315000600	DOUBLE DIODE MC2838-T12-1	KLM-2095	10
320004649	IC HD6412350	KLM-2092	760
320012249	IC MBM29F800BA-70PFTN(X829B):S	KLM-2092	680
320021156	IC TMS57070FFT	KLM-2092	940
320038006	IC UDA1309H	KLM-2092	470
324004165	IC HD74HC4040FPEL	KLM-2092	40
324004168	IC HD74HC4053FPEL	KLM-2092	30
324004176	IC HD74HC05FPEL	KLM-2092	20
324004262	IC HD74LVU04TELL	KLM-2092	10
324007005	IC BA05FP-E2	KLM-2092	60
324007006	IC BA07FP-E2	KLM-2092	60
324009004	IC NJM78L05UA-TE2	KLM-2092	20
324011004	IC M5216FP-600C	M.PART	30
324011012	IC M51953BFP-600C (SOP)	KLM-2092	20
324021014	IC SN74LV138ANS-EL	KLM-2095	30
324027005	IC GLT44116-40J4-TP	KLM-2092	260
324038005	IC TDA1308T	KLM-2092	40
334000600	PHOTO COUPLER PC-410K	KLM-2092	90
335006000	CRYSTAL OSC. AT-49 20.00MHZ	KLM-2092	70
335010800	CRYSTAL OSC. AT-49 12.5MHZ	KLM-2092	70
362009016	VR RK09K1130CA6	KLM-2092	30
362009017	VR RK09K1130D0K	KLM-2092	30
362009018	VR RK09K12C0D08	KLM-2092	60
370004500	REC EC16B242041S	KLM-2092	100
375014800	POWER SW SDKLA10200	KLM-2092	60
404000500	CHIP SOLID INDUCTOR BLM21B102SPT TS	M.PART	10
405008000	AC ADAPTOR A30960J	M.PART JP	490
405008100	AC ADAPTOR A30950	M.PART EX	490
405008100	AC ADAPTOR A30950	M.PART CN	490
405008100	AC ADAPTOR A30950	M.PART US	490
405008300	AC ADAPTOR A9600E	M.PART FR	620
405008300	AC ADAPTOR A9600E	M.PART GE	620
405008300	AC ADAPTOR A9600E	M.PART WG	620
405010500	AC ADAPTOR A9600B	M.PART UK	680
450003100	PHONE JACK LGR4609-7000	KLM-2092	20
454012700	DC POWER JACK DJ32-2	KLM-2092	20
472071301	CONNECTOR SIDE S13B-PH-K-S	KLM-2092	10
472071401	CONNECTOR SIDE S14B-PH-K-S	KLM-2092	10
475002789	HARNESS HNS-2789 (BOARD IN)	KLM-2095	120
475002790	HARNESS HNS-2790 (BOARD IN)	KLM-2095	110
475002815	HARNESS HNS-2815 (BOARD IN)	KLM-2092	10
480010200	DIN SOCKET YKF51-5046	KLM-2092	110
500018300	RUBBER FOOT 3x22x3	M.PART	10
540021900	PLASTIC SUPPORT PS-610	M.PART	10

620018200	POWER SW KNOB KOC-E40224	M.PART	10
620033900	KNOB P422-90G(BK/L.GR)	M.PART	10
620035500	X-829B RUBBER KEY F (20KEYS)	M.PART	230
620035600	X-829P/B RUBBER KEY L (13KEYS)	M.PART	160
620035800	X-829B RUBBER KEY B (7KEYS)	M.PART	110
620036000	X-610 ENCODER KNOB (BLACK)	M.PART	30
630024300	X-514/7 8-SEGMENT LED WINDOW	M.PART	50
630025702	X-829P/B CU SHIELD SHEET	KLM-2092	70
630025703	X-829P/B SHIELD SHEET F40869	M.PART	10
641041547	X-829P/B BOTTOM COVER C30525	M.PART	120
644007700	GND SPRING KOC-C46014	M.PART	10
644008800	GND SPRONG (J) KOC-C41125	M.PART	20
646070900	X829B UPPER CASE KOC-E10163-2	M.PART	440

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314029800	LED CL-200YG-C-TU	KLM-2094	20
314029900	LED SML-210JTT86	KLM-2094	10
315000500	DOUBLE DIODE MC-2840-T12-1	KLM-2092	10
315000600	DOUBLE DIODE MC2838-T12-1	KLM-2094	10
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324004176	IC HD74HC05FPEL	KLM-2092	20
324004262	IC HD74LVU04TELL	KLM-2092	10
324007005	IC BA05FP-E2	KLM-2092	60
324007006	IC BA07FP-E2	KLM-2092	60
324009004	IC NJM78L05UA-TE2	KLM-2092	20
324011004	IC M5216FP-600C	KLM-2092	30
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324038005	IC TDA1308T	KLM-2092	40
334000600	PHOTO COUPLER PC-410K	KLM-2092	90
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335010800	CRYSTAL OSC. AT-49 12.5MHZ	KLM-2092	70
362009016	VR RK09K1130CA6	KLM-2092	30
362009017	VR RK09K1130D0K	KLM-2092	30
362009018	VR RK09K12C0D08	KLM-2092	60
370004500	REC EC16B242041S	KLM-2092	100
375014800	POWER SW SDKLA10200	KLM-2092	60
404000500	CHIP SOLID INDUCTOR BLM21B102SPT TS	KLM-2092	10
405008000	AC ADAPTOR A30960J	M.PART JP	490
405008100	AC ADAPTOR A30950	M.PART EX	490
405008100	AC ADAPTOR A30950	M.PART CN	490
405008100	AC ADAPTOR A30950	M.PART US	490
405008300	AC ADAPTOR A9600E	M.PART FR	620
405008300	AC ADAPTOR A9600E	M.PART GE	620
405008300	AC ADAPTOR A9600E	M.PART WG	620
405010500	AC ADAPTOR A9600B	M.PART UK	680
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630025703	X-829P/B SHIELD SHEET F40869	M.PART	10
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644008800	GND SPRONG (J) KOC-C41125	M.PART	20
646070800	X829P UPPER CASE KOC-E10163-1	M.PART	440